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THE BRITISH
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OCTOBER, 1908.

REMARKS ON SOME SMALL SUBCUTANEOUS AND CUTANEOUS GROWTHS.

By F. PARKES WEBER, M.D., F.R.C.P.,
Physician to the German Hospital, London, and the Mount Vernon Hospital for Chest Diseases, Hampstead.

Amongst the great variety of little hard subcutaneous nodules (I refer to nodules mostly not much larger than a pea) met with in routine examinations of patients, some of the best known are undoubtedly "rheumatic nodules" in children (very much less known on the Continent than in England), and the very small calcareous nodules (phleboliths) met with so commonly over the tibiæ of elderly persons.* Curiously enough, although ordinary subcutaneous lipomata of moderate or large size are generally correctly diagnosed at clinical examinations, minute subcutaneous lipomata, especially when they are very tense and tender, are often not recognised as fatty until they are removed for "biopsy" purposes. Previously these minute growths have frequently been regarded as subcutaneous metastases from a malignant tumour in the viscera (if the existence of such a tumour has been for other reasons suspected) and they may even have been supposed to be rheumatic fibrous nodules in adults.

* *Cf.* H. D. Rolleston, "A Case of Phleboliths simulating Subcutaneous Fibrous Nodules," *Lancet*, 1906, vol. i, p. 29. In 1900 I heard from Dr. J. F. Payne that he regarded some of the little calcareous nodules met with in the subcutaneous tissue over the tibiæ of elderly persons as phleboliths.

Their occasional tenderness may be due to their tenseness, but I am inclined to think it is sometimes the result of suggestion, the patient believing the little tumours to be dangerous growths until one of them has been removed and shown to be only fatty.

Recently a young woman, aged 24 years, whom I had to examine at the German Hospital in regard to the condition of her vascular system, complained of a small, freely movable, hard, tender nodule, about the size of a big pea, which could be felt in the subcutaneous tissue of the upper part of the front of the left arm, in the depression between the deltoid and the biceps muscles. She had no other growths of the kind anywhere else. It was removed, and microscopical examination showed it to have a glandular structure, and to consist of tubules lined by cubical epithelium. In some places there were small cysts apparently resulting from retained secretion, and in parts degenerative changes had occurred, probably as a consequence of imperfect blood supply. Apparently the little tumour was an example of what has been named "benign cystic epithelioma" (the term "epithelioma" being used in its continental sense, not in the sense in which it has been usually employed by English pathologists), though it was solitary, whereas benign cystic epitheliomata are usually multiple.

Last April I had a hard, lentil-sized, freely movable, subcutaneous nodule removed for biopsy purposes from the front of the chest of a man suffering from some form of chronic lymphadenomatous growths, but it turned out to be calcareous, and when decalcified and microscopically examined it showed nothing except *débris* within a fibrous capsule, so that it may have been, as Mr. E. H. Shaw suggested, only a calcified sebaceous cyst. This little examination was therefore an example of a "biopsy," being, as unfortunately occasionally happens, of no value for the purpose for which it was undertaken.

Localised vascular papules on the face of persons suffering from hepatic cirrhosis.—Besides the spider-like angiomata (stellate telangiectases) which occur on the skin of adults and children suffering from various forms of cirrhosis of the liver, two or three larger angiomatous papules (one might almost call them superficial cavernous angiomata) are not rarely met with, usually situated on the patient's face. Both these kinds are likewise found associated together in patients with "multiple hereditary developmental angiomata (telangiectases) of the skin and mucous membranes," as described by Osler

and others.* The projecting vascular papules in question may reach five or seven millimetres in diameter at their bases, and are apparently formed by a conglomeration of dilated arteriole, capillaries, and venules. Such was at least the structure of a typical vascular papule of this kind which I was recently able to examine. It was from the skin over the bridge of the nose of a woman, aged 50 years, who likewise had multiple stellate and hair-like telangiectases of the face, and had suffered from recurrent epistaxis for some years. Her liver, when examined at the necropsy, showed a chronic hypertrophic cirrhosis of fine meshes. In regard to the telangiectases of her face and the recurrent epistaxis she resembled the subjects of the "hereditary developmental form of telangiectases" already alluded to. In the little vascular tumour in question I did not find sufficient evidence of degenerative changes to support the view that such localised vascular papules owe their formation to degeneration of the vessel-walls, as recently suggested by Galloway.† Cutaneous telangiectases may occasionally give rise to bleeding, whether in persons with the hereditary form of multiple developmental telangiectases or in persons with hepatic cirrhosis, or even in otherwise quite healthy persons.‡ The woman with cirrhosis, to whose case I have just referred, had a good deal of bleeding at one time from a small telangiectasis under the chin.

Xanthoma-like thickening of lineæ albicantes.—An elderly woman under my care at the German Hospital for a form of leukæmia had many old lineæ albicantes (striæ atrophicæ) of the ordinary type over the abdomen, but just above the umbilicus some of these lineæ were decidedly thickened, projecting, and xanthoma-like in appearance. There was no jaundice or glycosuria. These projecting bands could scarcely have been due to leukæmic infiltration, for no leukæmic infiltration of lineæ albicantes has, I believe, ever been described, and in this patient there was no leukæmic infiltration of the skin elsewhere. Neither had these thickened bands the claw-like appear-

* See F. Parkes Weber, "Multiple Hereditary Developmental Angiomata of the Skin and Mucous Membranes," *Lancet*, vol. ii, 1907, p. 160.

† J. Galloway, "Visible Signs of Visceral Disease," *British Medical Journal*, 1908, vol. i, p. 665.

‡ *cf.* W. Bligh, "Note on a Case of Bleeding Telangiectases," *Lancet*, 1907, vol. i, p. 506.

ance of scar-keloid. I cannot be sure of their exact nature as no "biopsy examination" was made, and the patient passed out of my sight when she left the hospital, but the condition is, I think, worth recording as I have never heard that any similar transformation of lineæ albicantes has been noted. Neither do I find it alluded to in F. Juliusberg's valuable paper on "Colloid Degeneration of the Skin, especially of Granulation and Scar Tissue."*

Botryomycoma hominis.—Although the name is an unfortunate one and due to the fact that at one time human botryomycosis was wrongly supposed to be caused by infection with an organism termed "botryomyces," the appearance of these little tumours is so characteristic that for clinical purposes at least it is well to retain the name. Human botryomycoma must, I think, be very rare in England, for few medical men have apparently seen typical examples, and no one who has once seen the characteristic strawberry-like tumours, with their moist, raw-looking surface and narrow pedicle growing generally from the patient's finger or hand, is at all likely to forget the appearance. The large number of publications on the subject in France contrasts with the paucity of literature on the subject in England. Staphylococci and other pyogenic organisms have doubtless been found in them, but to call them simply "pyogenic" or "septic" granulomata is, I think, a pity. Septic organisms can, of course, produce different effects according to their degree of virulence, their abundance, and the nature of the living soil on which they grow. Ordinary suppuration, granulation growths, or phlegmonous œdema (without any obvious suppuration), may, of course, all be produced by the same kind of microbes, yet the appearance of "botryomycomata" is so remarkable and so characteristic that some special organism may ultimately be discovered in them in addition to the ordinary pyogenic microbes which have hitherto been found, and this hypothetical organism may then turn out to be the only essential factor in their development.

* See Fritz Juliusberg, "Ueber colloide Degeneration der Haut, speciell in Granulations-und Narbengewebe," *Arch. für Dermatologie und Syphilis*, 1902, vol. lxi, p. 175.

GRANULOMA ANNULARE.*

By E. GRAHAM LITTLE, M.D., F.R.C.P.,
Physician to the Skin Department, St. Mary's Hospital.

(*Concluded from page* 296.)

General Remarks.

Initial lesion and terminology.—In the synopsis of all the cases of which I have been able to find record or obtain information I have set apart a special column describing the initial lesion; it will be seen that in the overwhelming majority of cases this is a nodule; Brocq's name for the disease, "Néoplasie nodulaire et circinée," seems to me to be preferable to any of the others suggested, although the term "new growth" may not be the happiest to describe the histological features. Objection may be taken to all the other names proposed. "Lichen annularis" seems to me to be a particularly unfortunate selection owing to the liability to confuse this disease with Lichen planus annularis—with which, in my opinion, it has no connection whatever; "ringed eruption" is too vague, and does not include the isolated-nodule stage which may exist without the ringed arrangement. The same objection is also valid against "Granuloma annulare," and the histology is not that of "granuloma"; but largely, no doubt, owing to Dr. Radcliffe-Crocker's selection of this term, it is probable that it will eventually win in the competition for supremacy.

I think it is important to insist rather on the character of the nodule than the perhaps less constant arrangement in rings, which when present makes the disease so striking that this feature has monopolised attention. The nodule, then, in its first inception is a whitish semi-translucent swelling, becoming more visible if the skin is stretched, when it is easily felt as a deep-seated, hard pea-like body in the skin. Many observers have described the subsequent development of rings as being due to peripheral enlargement of individual nodules with involution in the centre. My own experience would lead me to describe the phenomenon as more often due to

* Paper read at the Dermatological Section of the Royal Society of Medicine on June 18th, 1908.

fusion of collateral nodules which are grouped in a circinate or crescentic manner; I have seen individual nodules become rings only in one case, which was considered the most doubtful of my series (Case 6). But I have repeatedly seen fresh efflorescences of nodules of equal size and age grouped in rings frem the outset, and I believe this to be the sounder explanation of the circinate arrangement. This circinate grouping is common to many diseases in which lesions follow the distribution of vessels in the skin. The nodule, in its earliest stage, is usually *white*, with something of the appearance and rather less than the size of a boiled sago grain. I would emphasise this early whiteness and semi-translucence, as I believe this feature serves to differentiate it from the lesions of folliclis. (In Case 6 of my series I opposed the latter diagnosis chiefly on this clinical difference as well as on the histology of the lesion.) In Case 4 of my series, a man whom I had under my observation for many months at St. Mary's, it was possible to note the sudden appearance of these white nodules, which later became red or blue and grouped in rings. Inversely, too, in the course of involution of the disease, the rings may become resolved again into nodules, and the ring character quite disappear.

It is a most curious feature of a lesion, which may be destined to persist for months and which perhaps has tuberculous associations, that it may spring into being almost with the suddenness of an urticarial wheal, and with no subjective symptoms whatever to mark its coming. But Darier's experimental production of typical tubercular nodules in the skin fifteen days after an injection of tubercle bacilli proves that the rapidity of the tubercular process is greater than one would be inclined to suppose from the contemplation of the more ordinary clinical progress of tubercular manifestations. Similarly, the demonstration of the histologically tubercular character of the rash of Lichen scrofulosorum resulting from the injection of tuberculin, often within a few hours of that injection, prove that histological tubercle may be of very rapid production.

The nodule is *deeply seated* in the skin, as both clinical and histological evidence show. In some of the cases the earliest inflammatory collection of cells appeared to surround especially the sweat-coils (Pringle's case, *e. g.*), a point which will be referred to later.

The nodule is usually the earliest lesion, but in some cases the

eruption was first seen in the form of a ring which could generally be made out as consisting of individual nodules, discrete, closely grouped and enclosing a space of skin concerning which the descriptions differ greatly. Usually the colour of this central area is darker than normal, more congested and red; sometimes the skin has been noted to be "atrophic" and even "cicatricial." The size of the ring varies also greatly, from half an inch in diameter to two or more inches. The border is usually about one sixteenth inch in width and about the same in height. A certain degree of erythema immediately surrounding the nodule and the rings has been described, but is not constantly present; the "halo" of redness contrasts with the whiteness of the lesion. The ring may involute unequally so that part of the edge may flatten leaving the rest unimpaired. The ring is thus often not complete, but crescentic and festooned figures are formed by the grouping of the nodules. The lesions on disappearance may be said to leave, in the majority of cases, no permanent scar or pigmentation.

The *distribution* of the disease is very specialised. Upon reference to the table it will be seen that the hand is the commonest seat, the dorsum of the fingers and the wrist being especially often occupied. Next in order of frequency come the feet, the ankle, the neck, elbows and knees, and the buttock. The face and the scalp are rarely affected. The number of lesions is usually restricted to quite a few, sometimes to a single instance; but there may be, exceptionally, an extensive distribution (Cases 32, 47, 49), which never, however, approaches the degree of general efflorescence.

The *course of the eruption* is very varied. The longest duration noted in any case was seven years (Dawson). Lesions untreated appear to be extremely indolent and to show little tendency to spontaneous cure, but when treated the most obstinate lesions seem to be dispersed by quite simple means, such as maceration. In one case, after excising a small nodule from a large patch on the wrist, I found a week later, apparently as a result of the bandage applied to the part, that the neighbouring nodules had flattened down almost to vanishing point. Adamson has reported a similar experience. Untreated, the nodules, and the rings made up of nodules, slowly enlarge and apparently persist indefinitely. (But see Sequeira's and Jadassohn's cases, in which spontaneous involution occurred.) Ulceration of the nodules or rings does not appear to occur even where scars have

been noted (compare with sarcoids of Darier, where ulceration is also absent).

Subjective sensations.—It has been noted that the lesions of the disease may appear as suddenly as urticaria, and it is somewhat remarkable that with so acute an onset there are usually no subjective symptoms associated with the eruption. The lesions are stated to have itched slightly in a very few instances. With this exception subjective symptoms are absent, and the first intimation that the patient has of his affection is that he sees the nodules or rings.

Incidence of season, age, and sex.—In the few cases in which it was possible to ascertain the date of commencement of the eruption, a preponderating number appear to have begun in the summer months, and this is suggestive in view of the involvement of the sweat-glands indicated in the histological examinations of early cases. The age of the patients varied within wide limits, the figures, in the cases where the age of the patient is recorded, being nineteen cases under the age of twelve, as against twenty-eight in patients above that age; the oldest age at which it was observed was fifty-two years, the youngest at eighteen months. In twenty-four cases the female, in twenty-three cases the male sex is recorded.

Rarity of the disease.—I had personally never had a case under my own observation until the latter half of 1904, when Case 1 of my series came to me at St. Mary's Hospital. In the next two months I had seen of my own and others four further examples of the disease, and in the same six months Brocq and Dubreuilh reported their series of cases. A careful examination of the records of the Dermatological Societies of London and Great Britain show a singular dearth of such cases since Galloway's report in 1899 up to 1904, and it remains a very rare disease. Hyde and Montgomery, whose general turnover of cases is enormous, have seen only one of this type prior to 1899, and in a quite recent letter inform me that they have seen no other instance of it.

The disease, however, is certainly not so rare as is stated, *e. g.* by Galewski, who could only record four cases. Many new cases are reported in this paper, and others are mentioned which are unreported.

Histological consideration.—I think it is impossible to avoid the conclusion that in the four cases which I have referred to as Pringle's, Perry's, Galloway's, and my own case of Hilda M—, the

disease is the same. All these occurred in children; clinically they were manifestly identical as far as I can testify, who saw them all. They are the type to which Galloway's name of Lichen annularis applies. Similarly I think that histologically it is impossible to refuse the conclusion that the three cases of Ada C— and William S—, of my series, and Brocq's case, described in the text (Nos. 49, 47, 22), are one disease; and the question to be decided here is whether these two classes can be approximated or identified. A detailed exposition of the histological appearances in each of these groups of cases will be necessary before this question can be decided.

First group.—In all four cases the epidermis is little, if at all, affected, a very moderate thickening of the stratum corneum, a granular layer which is perhaps a little thicker than normal, being all that is seen to note. There is no acanthosis, no thickening of the rete.

In the *corium* the sub-papillary zone is almost normal; in Galloway's case alone of this series is there any degree of infiltration here, and it is obvious that in this case, too, the infiltration becomes more marked and more extensive deeper in the skin, and that the more superficial inflammation is a continuation of that which has taken place in the deeper zones. In all four cases the chief changes, amounting to tumour-formation, take place in the zone where corium and hypoderm meet. Here there is an accumulation of cells in the section which constitutes a microscopic nodule. In these four cases the central part of the nodule round which the cell-infiltration is grouped seems to be composed of dilated sweat-coils; but similar groups of cells are also found round the hair-shaft and probably round blood-vessels. In two of the cases (Galloway's and Hilda M—) there appeared to be areas of degeneration in some of these cell masses, and elastic and connective-tissue fibres were absent from these cell masses, or if found interspersed between the cells, these fibres were fragmentary. In other parts of the section both elastin and connective tissue (collagen) were normal. In the other two cases of this series, Perry's and Pringle's, no data were obtainable as to the elastin.

Besides these aggregations of cells in rounded clumps, there were numerous rows of cells ascending from the tumour-mass to the surface, and distributed apparently along the course of sweat-ducts, hair-shafts and vessels. There were less numerous horizontal rows,

lying between the fascicles of the connective and elastic fibres, and further a scattered cell-infiltration permeating the connective tissue.

When examined with the higher power the cell-masses, both when lying in clumps and surrounded by connective tissue, and when interspersed in rows between the fibres, appear to be of the same type, and to be composed chiefly of three kinds of cells: (1) A large mononuclear cell, staining vividly with nuclear dyes, larger than a leucocyte, but without the protoplasmic envelope of plasma cells, such protoplasm as is present being like a thin halo with the nucleus in its centre. These are probably the largest constituent of the cell mass. (2) Numerous spindle-shaped, or oblong, or pear-shaped cells, not staining so deeply as the above, with an elongated nucleus, and indistinguishable from connective-tissue corpuscles. (3) A few large faintly-stained "epithelioid" cells, interspersed in the cell mass. Mast cells appeared unduly numerous in one case (Hilda M—).

In the case of Hilda M— and Galloway's case the infiltration descends to the deepest part of the corium and probably implicates the fatty layer, since the section which terminates at this layer is strongly infiltrated right up to the cut margin. The same is true to a less degree in Perry's, and to a still less degree in Pringle's case. The latter seems, indeed, to show the earliest type of inflammation of any of the cases examined.

Second group of three cases.—The epidermis is unaltered, the granular layer, the stratum corneum and the rete being all normal.

In the corium in the upper parts immediately below the epidermis there are isolated small groups of cells lying between separated connective tissue, and found to be in association with blood-vessels. These groups become far more numerous and larger as one descends into the corium, so that the main changes appear in the middle and lower parts of the cutis. Here the cell-masses come to occupy the greater part of the tumour-formation. The cells are arranged in clumps surrounded by connective and elastic tissue, and in long vertical and horizontal rows, following the course of vessels. In the "clumps" the cells are closely packed together and fill the pockets formed in the connective tissue; in the masses themselves there is usually no elastin or connective tissue, but in localised areas of the section there are broken up elastin and collagen tissue lying between cells which are less closely packed, and the tissue is here œdematous.

In the rows of cells which appear to come from the tumour in the hypoderm and lower corium, and to ascend along sweat-ducts and hair-shafts, as well as along blood-vessels not connected with these structures, the same type of cells is seen as in the clumps; and three kinds may here again be described as in the case of the first group of cases, namely, mononuclears, connective tissue, and epithelioid cells. Mast cells are occasionally found in abnormal number.

The blood-vessels appeared in many parts of the section thickened and even obliterated by endarteritis.

In many of the foci of cells there appears to be a central destruction. Giant cells were found in one case (Ada C—), but there was no typical "tubercular" structure.

A diffuse cell infiltration in all these cases involved especially the fatty zone, which was in many places actually fibrotic in large areas. The cell-masses in many instances could be demonstrated to surround sweat-coils and ducts and hair-shafts.

Upon comparing these seven cases together, I think a gradual transition from the simplest case, that of Pringle, to the most complicated, that of Brocq, can be noted, and I am personally convinced that the disease in these seven cases was the same; in fact, the transition, to my mind, is almost like that of serial sections. In all we have to do with a deep hypodermic inflammation gradually spreading towards the surfaces, and situated round vessels; the cell masses observed in all the cases have much the same character as regards the cells composing them. In several instances of both groups there is a nodular necrosis observable. The constancy of the clinical appearances is another and an equally strong argument for their identity. In only one of the cases reported as of this type, that of Savill, are the histological features unlike, and on this ground I should be inclined to refuse recognition of this case, the diagnosis of which was very uncertain, and the records utterly inadequate. In the case of Dubreuilh the thickening of the rete and other granular layers are also unusual, but the infiltration is, as in the seven cases here compared, deep seated and of the same type. In Jadassohn's case, which clinically was a little doubtful, there is the same deep-seated, nodular infiltration, and I should regard this case as a true instance of the disease.

Nature of the disease.—In view of the opinion of the tuberculous

associations, which will be discussed at length later, it is interesting to note that the earliest case recorded—that of Radcliffe-Crocker, in his *Atlas* in 1893—was recorded under the title of Lupus erythematosus. Dr. Crocker expressly states in his later paper on Granuloma annulare that this earlier case was of this class.

Radcliffe-Crocker has drawn particular attention to the frequency with which "warts" preceded the development of the eruption. It seems to me probable, however, that the tendency of patients to describe any excrescences on the hands under this generic title explains this frequency, for evidence of which reliance must usually have been placed on inexperienced narrators, who would be likely to mistake the early nodules for warts. Warts are epidermal; this disease essentially non-epidermal, and no association between the conditions other than accidental can be conceived.

The exact relation to "Granuloma annulare" of the group of cases named by Crocker "Erythema elevatum diutinum" is very difficult to determine, especially as no accepted case of the latter morbid class has appeared at any of the dermatological societies for many years. The description of the case which formed the basis of Dr. Crocker's paper reads much like the condition seen in Granuloma annulare in the histological features of a deep-seated inflammation of the corium, with fibrous changes resembling keloid. Crocker was "doubtful" as to the identification of this case with Galloway's case (*vide* Galloway, *Brit. Journ. Derm.*, 1899, p. 221, *et seq.*). Galloway and Brocq are both inclined to associate this type closely with "Granuloma annulare." The cases of Hutchinson, Judson Bury, and others included in Erythema elevatum diutinum remain of uncertain nature.

Dr. Colcott Fox has called my attention to a case reported by Gallois under the title of gummata of the palm (which they certainly seem very unlike), which may be an instance of the disease (*Journ. de Med. de Paris*, November 24th, 1901, p. 278), and to an earlier case of Volkmann's in a child reported as spontaneous keloid. The illustrations of this case do not very closely resemble the clinical picture of Granuloma annulare, but the position, the histological evidence of fibrosis, and the spontaneous origin may suggest this identification (v. Langenbeck's *Archiv*, Bd. xiii).

The opinion that the disease under discussion is a type of Lichen planus is held, I understand, by several observers; and there is no

doubt much difficulty in distinguishing the circinate lesions of Lichen planus from this eruption. Cases of Lichen planus have, as I think, for example, in Saville's report, been regarded as cases of this disease. But the histology to my mind is quite different. The granular layer, so notably increased in Lichen planus, is not increased in the most typical examples of "Granuloma annulare." The cell infiltration in Lichen planus is much more circumscribed and superficial; clinically, the different incidence of the disease, its relative frequency in young children in whom Lichen planus is rare, the complete absence of notable itching, the lack of papules simulating Lichen planus, the different distribution, all contradict the assumption of identity. The term Lichen annularis for this disease, which Dr. Galloway, its inventor, has assured me was not intended to assume this identity, has undoubtedly confused the issue, and on these grounds alone I think this name should be discarded.

Rasch and Gregersen, in 1903, discussed in a very full and elaborate record of a case, reproduced here, the ætiology of a group of cases which included Colcott Fox's, Galloway's, and Dubreuilh's first case. They drew attention to the close analogy with "sarcoids" of Boeck. Brocq also suggested the approximation of this group to "sarcoids," and Galewski, in fact, adopts this classification, his case being recorded as "tumores benigni sarcoidei cutis." I have not personally had an opportunity of seeing either a case or a section of "sarcoid," but on reading through the paper by Darier and Roussy on this subject I have been struck by several points of similarity.

Darier's sarcoids, as distinguished from Boeck's, originated deeper in the corium and showed a more tuberculous structure. Sarcoids, as described by Darier, are "neoplasms composed partly of inflammatory alterations of the adipose tissue, partly of tissue having all the characters of tuberculous tissue; originating in the hypoderm, the neoplasm appears to extend by invading the neighbouring fat lobules and the lymphatic channels, and by following the vessels and sweat ducts which serve as an axis upwards into the corium. These neoplasms are tuberculoid nodules surrounded by young connective tissue infiltrated with round cells." Giant cells may or may not occur. From their histological characters, from the history of the recorded cases, and from their tuberculin reactions, Darier regards sarcoids as being of the nature of tuberculides; no

bacilli have been found in sections, and the injection of tissue from sarcoids into guinea-pigs has been negative; so that sarcoids occupy the following relation, in his opinion, to other clinically similar diseases with tubercular associations:

Scrofulodermata: virulent to guinea-pigs; + bacilli.

Erythema induratum: virulent; no bacilli.

Sarcoids: non-virulent; no bacilli.

Patients the subjects of sarcoids react, both locally and generally, to tuberculin and the tumours diminish under treatment with tuberculin injections.

In the case of Ada C—, noted above, the patient reacted strongly to Calmette's test; and the tissue of a recent nodule injected into a guinea-pig produced no result. In her opsonic reaction she gave on only one occasion a heightened index, the other estimations, seven in number, showing a fairly constant index about the normal. This patient, moreover, presented signs of pulmonary tuberculosis, so that these tests, even if accepted as evidence of tuberculosis, are rather vitiated as regards their bearing on the skin-lesions. I submitted sections of this case to Darier, who did not regard them as identical with his cases of sarcoid, though somewhat analogous.

The tuberculous association of these cases suggested by their histological similarities with "sarcoid" receives considerable confirmation from the clinical histories—a fact noted long ago by Crocker. The frequent mention in the synopsis of cases here submitted of tuberculous antecedents is striking; this is indeed perhaps the most frequent common factor in the cases recorded, and my personal view is strongly in favour of this ætiology.

Treatment.—In my own cases, local measures seemed satisfactory without any internal medication, salicylic acid either in ointment or plaster, ichthyol or resorcin in ointment, being adopted. In two cases the incidental application of dry dressings after a biopsy caused apparently the involution of the neighbouring lesions covered by the dressing. Jadassohn in his first case found cause to think internal administration of arsenic was more successful than local measures. The *prognosis* as regards the actual disease would appear to be uniformly good, since in all the recorded cases the skin-lesions ultimately disappeared; but the possibility of tuberculous association should not be lost sight of in the general prognosis.

Bibliography.

The synopsis of cases furnishes a complete bibliography which need not therefore be repeated.

Illustrations of "Granuloma annulare" Previously Published.

Crocker.—*Atlas*, Plate lxvii, labelled "Lupus erythematosus of backs of hands," figs. 1 and 2.

Galloway.—*Brit. Journ. Derm.*, 1899, p. 221. Coloured plate, showing clinical character, and photograph of histological aspect.

Crocker.—*Brit. Journ. Derm.*, 1902, p. 1. Coloured plate of clinical characters of three cases, and photograph of histological appearances of one.

Brocq.—*Traité de Derm. Pratique*, vol. ii. Photograph of clinical aspect.

Rasch and Gregersen.—*Arch. für Derm.*, 1903, p. 337 (histology only illustrated).

Galewski.—*Iconographia Dermatologica*, fasc. iii (clinical and histological).

Discussion.

The Chairman said that the Section was greatly indebted to Dr. Graham Little for his important contribution. Those who had been through the "mill" knew the enormous amount of time and trouble that such a paper entailed. He (Dr. Radcliffe-Crocker) naturally had special reason to be interested in the subject. It was in 1893 that he published his first case of Granuloma annulare, although at that time he was under the erroneous impression that it was related to Lupus erythematosus. The similarity was one which had not escaped other observers. In some cases Lupus erythematosus was suggested very decidedly; in others there was very little suggestion. Probably there was not much relationship between the lesions save in slight clinical features. Dr. Graham Little had put emphasis upon the observation that the lesion was produced from the grouping of the nodules and not from a single nodule. This was a point upon which he (Dr. Crocker) had also laid stress, and one in which his cases differed from those of Dr. Colcott Fox. They had to remember that a single nodule might be an accidental thing, and it was only by taking a large number of cases that they could arrive at definite conclusions. Furthermore, the histology of an old lesion and of a new one differed in many ways. When he first came to the study of these cases he had only a single nodule to found his ideas upon. He put the half-dozen cases which fell under his notice into the *British Journal of Dermatology*.* and reprinted the article as a pamphlet. There was one feature of these cases that he believed Dr. Little had not mentioned, namely, the presence of common warts. [Dr. Little signified that this was mentioned in the full paper, of which he had only read an abstract.] It was a fact that in several cases common warts had been antecedents and concomitants of Granuloma annulare, and although they did not know that there was any relationship, and histology certainly did not show any relationship, such a point in a rare disease was worth mentioning. Another thing to be noted was the

* No. 159. vol. xiv.

frequency of nodules on the nape of the neck. Nodules on the neck appeared in four out of six cases which he brought forward in 1902. When Dr. Graham Little brought his cases for diagnosis to the Dermatological Society nodules on the neck were also found in some of them. In that region, of course, they could be seen more easily than elsewhere. With regard to the likelihood of the two diseases Granuloma annulare and Lichen annularis being one, he was quite open to conviction, and all would be glad to reduce the number of diseases.

Dr. James Galloway said that he desired to join Dr. Crocker in thanking Dr. Graham Little for the very complete paper which he had read before the Section. He considered that as the result of Dr. Little's painstaking work their position as to the class of disease to be considered as belonging to the category of "Lichen annularis" had been much more closely defined. It was especially as regards the types of indolent tumefaction of the skin described by continental observers, commencing with Dr. C. Boeck, of Christiania, and more recently by several French authors, under the name "sarcoid"—subcutaneous or benign—that confusion may have arisen; but these would now disappear from the horizon when considering the disease which was the subject of Dr. Little's paper. In reference to the group of benign "sarcoid" tumours, while prepared to admit their analogies and possibly their relationship with certain tuberculous affections of the skin on the evidence put forward by Boeck, Darier and Roussy, and Thiebierge, he thought that by no stretching of classification could they be put in the same category as the true cases of Lichen annularis mentioned by Dr. Little. With these "sarcoid" tumours members of the Section were no doubt familiar. Examples, he thought, had been brought forward on various occasions; he recollected at the moment cases shown to the Dermatological Society of London by Sir Stephen Mackenzie. In one of the most recent, viz. that described by Dr. Galewsky, of Dresden, he thought that the name of "sarcoid" was especially misleading; judging by the description and by the illustration it was an example of Lichen annularis and had no resemblance to the sarcoids of Boeck, Darier, and Thiebierge. The name used by Gougerot in describing one of the French cases, viz. "lymphosarcoide," in which numerous small tumours were present in the skin and subcutaneous tissues suggested how little was the resemblance between these and Lichen annularis.

Dr. Little had been unable to suggest the factors concerned in producing this skin affection, but he hoped that information as to this might be forthcoming.

Dr. Galloway added that he could not allow the opportunity to pass without entering a vigorous protest against the use of the term "granuloma" given to this disease. The word "granuloma," an unhappy one at the outset, had come to be specially applied to certain characteristic morbid processes occurring in the course of certain specific infections—the infective granulomata. The structure of these tumours was well known; the peculiar cells which formed part of the structure could be recognised, but according to the evidence of those who were actually using the word "granuloma" in the name "Granuloma annulare" the histology of the small tumours present in that disease was clearly not that of the infective granulomata. Wrong, therefore, in its application in the histological sense, it was surely a still greater error to make use of a term signifying a type of morbid process in order to designate as a

clinical term a special disease. He had a certain amount of sympathy with those who evidently wished to limit the application of the ancient term "Lichen" to the disease known as "Lichen planus," but he considered that it was as yet premature to make such an effort with the prospect of success, for the ætiology of that disease was unknown. Indeed the attempt to do so failed on all sides. They had heard Dr. Little in the course of his paper speaking of Lichen scrofulosorum, and anyone listening to the discussions in this room would hear the terms "Lichen spinulosus," "Lichen pilaris," etc., in constant use. He thought that Dr. Crocker was more happily inspired when in the early days of this discussion the idea had occurred to him of the relationships possibly existing between such diseases as Lupus erythematosus (so-called), and Lichen planus, with their strong suggestions of a toxæmic origin, and the disease to which Dr. Little had drawn their attention, than when in later days, in an unhappy moment, he had applied the name "granuloma" to the cases he had described. The disease under discussion answered to the most strict definition of the old medical term "lichen" used by Hippocrates and accepted by Willan; its curious annular distribution could not fail to be recognised, so that its name of Lichen annularis was very naturally employed.

Dr. George Pernet said that he had already pointed out to the members of the Section that in Granuloma annulare there were no plasma cells—a point which had also been brought out by Dr. Graham Little. The absence of plasma cells inclined him to agree with Dr. Galloway that they ought to re-christen the lesion, and not include it among the granulomata, a feature of the granulomata being the plasma cell formation. He suggested the name of "Celluloma annulare," which, although it might equally fall under Dr. Galloway's condemnation as barbarous, at least did not commit one to specific histological surmises.

Dr. T. Colcott Fox said that he had brought two or three drawings of cases bearing upon the subject of the paper. One was a case by Professor Volkmann in which there was spontaneous keloid of the fingers and toes in a little child. Another, which he thought would also interest the Section, was by Tengier, who had published a case he had called "sarcoma of the hands and of the knees," which was very suggestive indeed of Erythema diutinum, or the malady that Dr. Graham Little had been discussing. He mentioned a third case which was called "multiple gummata of the hands occurring in a child," the palms and backs of the fingers being covered all over with little nodules. There was a history of syphilis in that case. Another case of interest was recorded in the *British Journal of Dermatology* by Dr. Smith, of which a drawing was shown by Dr. Colcott Fox. It was described as a case of Erythema diutinum. Microscopically the nodules were fibromatous. (Dr. Crocker said that the nodules invariably became fibromatous at a later stage of the lesions.)

Dr. H. G. Adamson suggested that, in the present state of our knowledge, the lesion having been referred to as an annular eruption, the name "nodular ringed eruption" would answer the purpose better than any other.

Dr. Graham Little thanked the members for their attention, and explained that he had only read an abstract of the paper, which was a very difficult one to read in full. He thanked Dr. Crocker and Dr. Fox particularly for their pictures of cases, which made a very important addition to the illustrations he had been able to gather and to show upon the table.

Table of Cases reported as "Granuloma Annulare," "Lichen Annularis," "Ringed

Case No.	Reference.	Recorded by	Title of record.	Sex.	Age.	Distribution of eruption.
1	*Brit. Journ. Derm.*, 1895, p. 91	Colcott-Fox	Ringed eruption	F.	11	Left ring finger, right little finger
2	*Ibid.*, 1896, p. 15	„	„ „	?	2	12–15 ringed lesions on buttocks and back of thighs
3	*Ann. de Derm.*, 1895, p. 355	Dubreuilh	Eruption circinée chronique de la main	F.	33	Index and middle fingers of both hands, left thumb
4	*Ibid.*, 1905, p. 65	„	Néoplasie nodulaire et circinée	M.	$1\frac{1}{12}$	On tendo Achillis (both sides), legs, and feet, right index, forehead
5	*Ibid.*, 1905, p. 68	„	„ „	F.	26	Cleft of finger, back of hand, left index
6	*Ibid.*, 1905, p. 69	„	„ „	F.	18	Base of left index
7	Communicated (1908)	„	„ „	M.	3	Dorsal base of index finger, radial edge of left hand
8	*Brit. Journ. Derm.*, 1899, p. 221	Galloway	Lichen annularis	M.	10	Fingers and thumbs of both hands, left ear
9	*Ibid.*, 1902, p. 1	Radcliffe-Crocker	Granuloma annulare	M.	20	Right wrist and thumb, left medius and 5th finger, ear, inner canthus, jaw, scalp
10	*Ibid.*, 1902, p. 5	„	„ „	M.	21	Back of hand, wrist, nape of neck
11	*Ibid.*, 1902, p. 5	„	„ „	F.	52	Wrist, nape of neck
12	*Ibid.*, 1902, p. 6	„	„	M.	11	Elbows, wrists, knees
13	*Ibid.*, 1902, p. 7	Radcliffe-Crocker and Pernet	„ „	M.	Adult	Index
14	*Ibid.*, 1902, p. 217	Radcliffe-Crocker	„	M.	Adult	Back of both hands, right index, left index
15	*Ibid.*, 1899, p. 435	Pringle	—	M.	18	Neck, face, scalp, wrist

Eruption," "Neoplasie nodulaire et circinée," "Tumores benigni sarcoidei cutis," etc.

Initial lesion.	Duration.	Evolution of disease.	Histology.	General remarks.
Nodule	2 mos.	Nodules formed rings which extended peripherally, central skin normal	—	Suffered from pains in the shoulders, but no rheumatism. Began in winter. No subjective symptoms.
„	5 „	Nodules formed rings with depressed atrophic centres. Some lesions remained nodular throughout	—	Began in very hot weather. Child quite healthy. No subjective symptoms.
Lenticular swellings the size of lentils	5 years	Nodules formed crescents and rings, central skin depressed, but became normal later	Diffuse cell infiltration in middle zone of corium	Eruption disappeared quickly with ichthyol. No subjective symptoms.
Papules, deep nodules	12 mos., with recurrence	Nodules formed rings and crescents, central skin depressed but normal, recurred, no traces left finally	—	Digestion disturbed, but child otherwise healthy. Family history good.
White hard nodule	4–5 years	Peripheral extension with central depression, no scar left	—	Very nervous patient, but no disease present. No subjective symptoms. Lesion disappeared in 2 mos. with treatment.
Nodule	2 years	Nodules formed segments of circle, scar left as result of treatment with caustics, lesions recurred	—	Patient had good general health. Family history good.
„	1½ „	Rings made up of nodules, central skin normal	—	Child otherwise well. No family disease. No phthisis.
„	6 „	Rings with white border, central skin slightly atrophied, rapid peripheral extension	Cell infiltration in cutis, slight destruction of connective tissue	Personal and family history good. Lesions disappeared in 6 mos. with treatment, but recurred three years later. Wart on hand.
Pale red nodules	4 „	Nodules coalesced to form circles with depressed central skin	Thickened rete, sweat coils infiltrated with cells, dense cell-mass in cutis	Delicate man, but no actual tubercular history. Lesions itched slightly.
Began as swelling with mattery head, also red papules	2 „	Rings made up of nodules which involuted, leaving reddened depression	—	One brother died of phthisis; no other family history. General health good. Had ordinary warts on hand.
Papules white, with red areola	2 mos.	Involuted, forming rings and crescents	—	Strong family history of tuberculosis. Lesion disappeared within 6 mos.
Like a flat wart	Over 1 year	Ring formed, with dark atrophic centre	—	Patient had bad sunstroke. Warts appeared synchronously with lesions.
Nodules	?	Rings formed, consisting of reddened nodules	—	—
Ring with elevated edge	?	Ring enclosed, pigmented, and slightly atrophic skin	—	—
Papules and warty nodules	8 mos.	Skin between nodules was normal in colour, with natural lines deeper than usual	—	In addition to the ringed lesions there were ungrouped nodules on forehead. Patient healthy, and family history good.

Case No.	Reference.	Recorded by	Title of record.	Sex.	Age.	Distribution of eruption.
16	*Ibid.*, 1905, p. 19	Pringle	Ringed eruption of extremities	M.	12	Hands, thigh
17	*Ibid.*, 1902, p. 270	Sequeira	Ringed eruption	M.	28	Back of hands and fingers
18	Communicated	J. H. Sequeira	Granuloma annulare	F.	8	Right index, back right hand, right wrist, back of left hand
19	Communicated	„	„ „	F.	21	Back of right wrist, back of left wrist, left index
20	Communicated	„	Ringed eruption	F.	8	Palms of hands, front of ankle
21	*Archiv für. Derm.*, 1903	Rasch and Gregersen	Sarcoid tumours	F.	33	Dorsal surface left index, fingers of right hand
22	*Ann. de Derm.*, 1904, p. 1089	Brocq	Néoplasie nodulaire et circinée	M.	Child	Back, sides, and front of fingers
23	*Traité de derm. Pratique*, vol. ii, p. 276	„	Granuloma annulare	M.	Adult	Back of fingers
24	*Ibid.*	„	„ „	F.	Adult	Fingers and hands
25	*Ibid.*	„	„ „	F.	8	Ankle and knees
26	*Ann. de Derm.*, 1904, p. 9	Audry	Erythemato-sclérose circinée du dos de la main	F.	50	Sides of medius and index
27	*St. Louis Hospital Mus. Catalogue*	Quinquaud (1891)	Fibrome fasciculé	—	—	Hands
28	*Brit. Journ. Derm.*, 1905, p. 23	Savill	Lichen annularis	M.	44	Neck, chest, upper limbs
29	*Ibid.*, and communicated (1908)	Perry and Sichel	Granuloma annulare	M.	8	Extensor surface of hands and feet
30	Communicated (1908)	Leslie Roberts	Acanthoma annulare	F.	9	Both ankles, but chiefly right
31	Communicated (1908)	Hyde and Montgomery (notes by F. W. M—)	Ringed eruption	M.	16	Radial edge of left index
32	Communicated (1908)	Jadassohn	Granuloma annulare	F.	59	Axillæ, groin, elbow, wrist, knees
33	Communicated (1908)	„	„ „	F.	4	Left hand, right hand, right foot, both thighs

Initial lesion.	Duration.	Evolution of disease.	Histology.	General remarks.
Nodules and rings	?	—	Sweat-coils slightly infiltrated and distended	—
Pale red spots, ? nodules	2½ years	Centre of ring atrophic, with some pigmentation	—	History of tubercle in mother's family. Patient pale, thin, with mitral disease. Lesion disappeared spontaneously within 6 mos.
Nodules	Several months	Nodules formed rings.	—	Cured with Ung. acid. sal. in less than 1 month.
Nodules	8 mos.	,, ,,	—	Case lost sight of.
Ringed patches	?	—	—	—
White nodules, later rings	1 year	Centre of ring smooth and "atrophic"	Cell infiltration in corium, deeply situated, some areas of necrosis, elastin fragmentary in parts, connective-tissue tumour	Family history good. Disease recurred after 6 years' interval. Disappeared without trace. No subjective sensations.
Warty nodule	—	Rings formed with depressed centre becoming definitely cicatricial	Cell infiltration in hypoderm and corium, sclerosis of fat-lobules, necrosis in some areas of connective tissue	Child otherwise well. Lesions commenced as "warts," and were cured by Vidal's plaster.
—	1 year	Rings disappeared with application of electro-cautery	—	—
—	—	Rings disappeared with application of salicylic acid plaster	—	—
—	2 years	Rings formed	—	—
Hard pink nodules	8 mos.	Rings formed with nearly normal centre	Histology "like Dubreuilh's"	—
Nodules	—	—	Histology suggested name "Fibrome fasciculé"	—
Rings	6 mos.	Diagnosis doubtful, treated for 5 mos. with mercury and iodides on syphilitic hypothesis	—	—
Nodules	3—4 mos.	Rings made up of papules, disappeared	Sweat-coils dilated and infiltrated; some general cell infiltration in cutis	Personal and family history good.
,,	1 year	Large rings formed by slow peripheral extension, no scar left	Hypertrophy of epidermis. No cell infiltration. Sweat ducts dilated	Hands "bluish." No chilblains.
,,	2½ years	Border of rings suggested keloid in colour and density, central portion normal	—	Nodules were left after rings disappeared. Eventually no trace left. Patient delicate health.
Nodules and rings	3 ,,	Some pigmentation left, very large rings and patches formed of nodules disappeared and recurred	Some grouped cell masses in deeper part of corium. Elastin broken up in these places	General health good. No tubercle. Some gouty and nervous traits.
Circinate patches of nodules	1 year	Some patches disappeared spontaneously	—	Itching complained of, not confined to patches, child otherwise in good health.

Case No.	Reference.	Recorded by	Title of record.	Sex.	Age.	Distribution of eruption.
34	Communicated (1908)	Adamson	Ringed eruption	M.	3½	Buttocks, back of thighs
35	Communicated (1908)	„	„ „	M.	2½	Elbows, buttocks
36	*Brit. Journ. Derm.*, June, 1908	„	Nodular ringed eruption	M.	17	Back of fingers of both hands
37	*Iconographia Dermatologica*, fasc. iii, 1908	Galewski	Tumores benigni sarcoidei cutis	F.	26	Forearm, right index finger
38	*Brit. Journ. Derm.*, 1908	Dawson	Granuloma annulare	M.	22	Left hand, over fingers and back
39	Communicated	MacLeod	Granuloma annulare or Lichen planus annularis	M.	43	Left hand, later recurrence on both hands
40	—	Darier	Granuloma annulare	F.	?	Thigh
41	—	„	„ „	F.	?	Hip
42	—	Montgomery	„ „	F.	—	Leg
43	Communicated	Colcott Fox	Ringed eruption	F.	35	Back of both hands, index finger
44	Case 1.—Hilda M—	Graham Little	Granuloma annulare	F.	6	Radial edge, right hand, external malleolus, left foot
45	Case 2.—Ephraim W—	„	„ „	M.	3	Front of left wrist
46	Case 3.—Ellen P—	„	„ „	F.	16	Dorsum and side of right hand
47	Case 4.—William S—	„	„ ,	M.	42	Front of both wrists; elbows, knees, nape of neck, fingers
48	Case 5.—Ethel C—	„	„ „	F.	4	Buttocks one lesion on each side; nowhere else
49	Case 6.—Ada C—	„	„ „	F.	18	Base of index and little finger; wrist, arm, breast, tendo Achilles, toes, foot, back, neck

Initial lesion.	Duration.	Evolution of disease.	Histology.	General remarks.
Nodules and rings	6 mos.	Rings with edge made of distinct nodules, and with pink centre	—	No history of rheumatic fever. No evidence of tuberculosis. Child in good health.
Lumps and rings	1 mo.	Lilac rings with central enclosed part darker, nodules on elbow	—	—
Small red lumps	5 mos.	Tendency of nodules to group in rings, eruption disappeared suddenly within 14 days after biopsy of one lesion	Collections of mononuclear round cells around blood-vessels and sweat-glands	—
Spots developing into nodules	6 „	Nodules formed crescents and rings, the centre of these showed normal skin or at most slight atrophy, disease cured and recurred a year later, finally disappeared	Diffuse cell infiltration in cutis of fixed connective-tissue cells	—
Nodules with red areola, later rings	7 years	—	—	—
Nodules with involution forming rings	14 days	Lesions disappeared rapidly. Recurred a year later on same part and then also disappeared rapidly	—	Digestive disturbances and nervous depression complained of.
Nodules	?	Circinate rings	—	Diabetic and syph.
„	?	„ „	—	Diabetic.
Ring	?	—	Keloid-like	—
Nodules and rings	Many years	Case lost sight of	—	Chilblain circulation—hands blue.
Nodules forming ring	5 mos.	White raised border became red later. Disappeared completely in about 3 mos. with treatment	Nodular infiltration of cells round sweat-ducts and glands. Some areas of necrosis	Child perspired freely, and was not robust, but showed no definite ilness. Had had "nettle rash" 14 days before appearance of "granuloma."
Nodules forming rings	3 „	Central portion of ring pinker than normal, with some slight appearance of atrophy	—	—
Ring of papules	?	Lesion disappeared within a few weeks (probably 14 days)	—	Slight itching complained of.
Nodules and rings	3 years	Some lesions disappeared rapidly; others persisted and new ones came	Nodular infiltration and grouped cells round sweat-glands and vessels, fatty sclerosis and necrosis of connective tissue	Man perspired copiously, and was thin and delicate looking No history of $\phi\theta$.
Nodule and ring	6 mos.	Central skin darker in colour; no actual atrophy, but slight whitish lines left	Nodular infiltration of cutis, some areas of necrosis of connective-tissue	Strong tubercular family history. Patient personally well.
Nodules and keloid-like swellings	5 „	Nodules formed imperfect ring in some cases. No ulceration, but many lesions left pitted scars	Nodular infiltration of hypoderm and corium, fatty sclerosis; giant cells	? Tubercle of left apex. Positive Calmette reaction. Nodule injected in guinea-pig gave negative result.

ON PEMPHIGUS IN CHILDREN.

By J. L. BUNCH, M.D., D.Sc.

The name "Pemphigus" was at one time used to include most, if not all, bullous eruptions, but is now usually limited to Pemphigus vulgaris, Pemphigus foliaceus and Pemphigus vegetans, but as the two latter diseases do not occur in children I shall not discuss them further. Pemphigus vulgaris may be divided into acute and chronic. Of the acute form there is one well-defined group of cases, occurring chiefly among adults, and especially among butchers and those who have to do with hides. The disease is usually fatal. From the clear intact bullæ a diplococcus has been cultivated by Demme, by Pernet and Bulloch, and others, which, when injected into the pleural cavity of guinea-pigs, proves fatal to these animals.

The acute variety of Pemphigus vulgaris which is usually seen in children is of less well known, if not unknown, origin. It is characterised by the appearance of clear blebs and bullæ on a normal skin; their outbreak is rapid or sudden, and they may occur on mucous membranes as well as on the skin. The contents of the bullæ are at first clear, but may afterwards become opaque, owing to the greatly increased number of leucocytes. The base of the bulla also becomes surrounded with a narrow red areola as the inflammatory reaction increases. The onset of the disease is usually marked by fever, sickness, shivering, or even a rigor, the patient feels ill, and the lesions increase considerably in number and extent within a short space of time. The disease usually runs its course either towards recovery or death within a few weeks; in children, however, recovery often takes place, the contents of the bullæ either become absorbed or escape through rupture of the bulla, with or without the formation of a scab. A hyperæmic patch of skin is left, which may later on become pigmented.

Chronic pemphigus is rather a recurrent than a chronic disease inasmuch as the lesions appear in successive crops at intervals of a few days, each attaining a considerable size in a few hours, and here and there coalescing to form large bullæ. As in the acute form of pemphigus the mucous membranes are sometimes affected, the nose, throat and pharynx becoming covered with blebs, and even the

bronchial tubes involved. The eruption does not appear to be influenced by the general health, and although many of the patients are badly nourished and ailing there is no special kind of cachexia. Acute febrile exacerbations may supervene on the chronic disease, the temperature rises to 103° or 104° F. and a fatal result ensues.

I have recently had under my care at the North-Eastern Hospital for Children a child recovering from an acute attack of pemphigus, which may serve as an illustration.

The patient, a little girl, aged 7 years, was admitted to the North-Eastern Hospital on June 30th, having been transferred from an eye hospital, where she had been an in-patient for three or four days. When she first attended this Eye Hospital on June 9th she was ordered to have atropine ointment put into her eye previous to examination of the eye. After this had been done for a week, conjunctivitis set in with puffiness round the eye and swelling of the orbit. This increased, and she was admitted as an in-patient on the 26th. The puffiness of the face continued with some erythema and subsequent desquamation, her temperature rose to 100° to 102·5° F., and bullæ made their appearance on the chest and back and spread to the abdomen and limbs, and there was a discharge from both ears which had come on two days previously to admission. She was then transferred to the North-Eastern Hospital, and on admission she had numerous bullæ and blebs on the trunk and limbs, a temperature of 102° F. and pulse 136. I saw her on July 3rd at the request of Dr. Frederick Taylor, who kindly transferred the case to me. There were then numerous bullæ varying in size from a pea to a pigeon's egg on the chest, abdomen, limbs and back. On the back and elsewhere some had ruptured, leaving raw bleeding surfaces, which were intensely tender and caused the patient much pain when she was moved. The bullæ were irregularly distributed, and showed but imperfect symmetry, some of them being clear, some hæmorrhagic and some distinctly cloudy. Where some of the bullæ had partly ruptured and the contents to some extent escaped, they presented a depression in the centre with a similarity to the umbilication of small-pox. A few bullæ were also present on the face, but the greatest number were on the trunk. A certain number of longer standing showed an erythematous base, but in most cases they arose from what appeared to be normal skin. Some of the larger blebs had coalesced

with neighbouring smaller bullæ, and when ruptured left a raw surface of appreciable extent which cause the patient much discomfort. There were a few blebs on the mucous membrane of the mouth, but the conjunctivæ were not involved.

On July 2nd cultures were taken from two bullæ, and smears were made by Dr. Langdon, the house-physician in charge of the case, to whom I am much indebted for his able and painstaking investigation of the case. The cultures were made on sloped agar and proved to be *Staphylococcus aureus,* but a film from another recent bulla made by Dr. Langdon showed only chains of streptococci. No cultures were, at this time, made in broth or any fluid medium, and this might perhaps account for the failure of the cultures to show streptococci. On July 7th cultures were again taken from two unruptured bullæ both on blood serum and broth, and films were also made. One of the bullæ again gave cultures of *Staphylococcus aureus,* the other in broth showed a pure streptococcus culture. This was submitted to Gordon's sugar tests and showed the following results :

Positive to neutral, red, saccharose, lactose, raffinose, and milk-clot.

Negative to inulin, salicin, and mannite.

In broth the chains of cocci were short.

The organism therefore corresponds to the type of *Streptococcus salivarius,* a comparatively non-virulent type of streptococcus which is not pathogenic for the mouse.

The opsonic index to streptococci was estimated on July 7th and found to be ·64. On July 7th an injection of five million (approximately) streptococci was made, and on July 14th the opsonic index was found to have risen to ·88 and clinically the patient was very greatly improved. On July 14th a further injection of five million streptococci was given, and on July 21st the opsonic index had risen to 1·2, and the bullæ had all dried up and the patient was convalescent. In this connection I should like to refer to a case of chronic pemphigus in a man, published by Pernet and myself in the *British Journal of Dermatology* for November, 1906, in whom streptococci were twice obtained in pure culture in broth from the clear fluid of the bullæ. He was treated with opsonic injections of streptococci, and at times staphylococci, on account of the septic condition of his leg. He still attends University College Hospital from time to time, but when the injections are allowed to lapse he generally gets a fresh crop of bullæ.

In this case the streptococci were also of the salivarius type, and when a pure culture was injected intra-epidermically in the guinea-pig a circumscribed indurated nodule appeared after two days, surrounded by an erythematous ring, but no bulla or bleb resulted. The nodule became re-absorbed in a week.

The different accounts of the anatomy of pemphigus can perhaps be explained by the assumption that entirely dissimilar cases have at various times been described, and that some of the descriptions apply to cases which are not now usually looked upon as true pemphigus. But these differences are also partly explained by such observations as those of Audry, who in the same case found that the bullæ were situated in different layers of the epidermis. Kreibich, who examined a large number of pemphigus bullæ, found them to occur both internal to the rete and also between it and the horny layer, although the separation of the epidermis from the cutis occurred more frequently. That the latter occurrence is the more common is also supported by the observations of Kromayer, Luithlen, Buzzi-Joseph and Jarisch, although Jarisch has also in former observations described it as occurring between the stratum lucidum and stratum granulosum. Hebra stated that the roof of the bullæ was formed by the outer horny layer, and other observers have arrived at the same conclusion; it seems, however, established that the anatomical seat of pemphigus bullæ is inconstant.

The bullæ themselves are composed of a single chamber and contain a greater or lesser quantity of leucocytes, among which the eosinophiles predominate. The pars papillaris corii undergoes definite changes, more especially in the form of œdema, which shows itself partly by the formation of clefts and fissures, partly by displacement of connective and elastic fibres. Kromayer has described the changes even in the fine threads of the cutis vasculosa, which are unevenly displaced. The papillary vessels are but little dilated, whereas the vessels of the sub-papillary network and the upper layers of the pars reticularis are distended with blood. An infiltration of mononuclear leucocytes is found along the vessels. Luithlen has described a disappearance of elastic fibres in the papillary area. Weidenfeld classifies the histological changes as follows:

(1) Marked dilatation of blood and lymphatic vessels.

(2) More or less extensive peri-vascular infiltration.

(3) Œdema of the papillary body and cutis.

(4) Definite changes in the elastic fibres.

(5) Œdema of the rete in its whole thickness or in its superficial layers.

The mechanism of the formation of bullæ is usually described as due to some acantholytic substance, whether ferment or otherwise, which can weaken the cohesion of the cells and determine the separation of the layers of the epidermis from one another. That the serum poured out has a cytolytic action seems probable, and this will account for the breaking-up of the prickle cells and the superficial connecting strands of the epidermis during the formation of a bulla. But it is a question whether this is not entirely a secondary phenomenon, the essential factors being the rapidity with which the serum is poured out and its relative quantity. The epidermis seems to be torn apart by the fluid which is poured out of the capillaries in the papillary body, assisted perhaps by contraction of the erector muscles. This fluid has a cytolytic action, and can be to some extent imitated by the intra-epidermal injection of 1 in 1000 sodium chloride solution, which causes the formation of superficial bullæ. In such an experiment it is of interest to note that at the periphery of the artificial bulla, where the fluid is tending to force its way, the vessels are constricted owing to the pressure, while at the centre, where the pressure is less, the blood-vessels are widely distended and full of blood. Were the artificial pressure high enough the destruction of tissue would, of course, be great, and all the vessels in the area of pressure constricted, but in pemphigus there is no reason to believe that such an amount of pressure does ever exist.

If the first rush of fluid is produced mechanically, it approximates to that seen in factitious urticaria where no true inflammation can be said to exist, and this is made more probable by some experiments of Weidenfeld, who finds that in pemphigus patients mechanical stimuli are capable of causing bullæ similar to those seen in Pemphigus vulgaris. Thus the pressure of a block of wood, edge downwards, on the skin of such patients gives rise to bullæ, whereas no such reaction occurs in healthy individuals. His experiments also show that the serum of the bullæ has a cytolytic action, and the injection of such fluid into the skin of a pemphigus patient can produce bullæ even in subjects who do not react to the pressure stimulus.

The occurrence in functional and organic disease of the central and peripheral nervous system of appearances very similar if not identical with true pemphigus, and described as Pemphigus nervosus and hystericus, led to the theory of a neuropathic origin of the disease, which has gained support through the demonstration of changes in the central and peripheral nervous systems by Eppinger and others. Eppinger reported six cases of pemphigus in which either simple degenerative changes had taken place in the peripheral nerves in the area of the bullæ and their immediate neighbourhood, or hæmorrhage into the central nervous system, or purely peri-neuritic inflammation. Saugster and Mott have described degeneration in the peripheral nerves, and Déjérine found neuritis in the area of the bullæ, which made their appearance in a case of general paralysis twelve days before death. Jamieson and Welsh in a post-mortem examination of a woman with Pemphigus vegetans found changes in the cells of the spinal cord consisting of vacuolation and destruction of the cells and diminution of the chromophile substance, and were of opinion that the case was one of primary toxic degeneration of the nerve-cells.

The neuropathic origin of the disease, which regards pemphigus as a primary angio- and tropho-neurosis, is supported not only by the histological demonstration of pathological changes in the peripheral nerves and central nervous system, but also by the clinical occurrence of bullous development in organic and functional nervous cases. Leloir, Mougeot and others have described cases in which the formation of bullæ followed injury to peripheral nerves, Weir-Mitchell, Morehouse, Corlett and Keen, after bullet-wounds of peripheral nerves, while Balmer, Charcot, Kopp and Leloir have recorded eruptions of bullæ in diseases of the spinal cord and brain, such as myelitis, meningitis and hemiplegia. Functional disturbances of the central nervous system have also been associated with bullous eruptions not of an artefact type, as in the cases recorded by Du Mesnil de Rochemont, by Boradet and by Neuberger. But all cases of pemphigus do not seem to fit in with a neuropathic theory, even if this is held to include an angio-neurotic element. The sudden onset of the disease in many cases, the obvious bad health of the patient, the rise of temperature accompanying the outbreak, all seem to point to something more, and emphasise the likelihood of a toxic or infective

origin. This possibility becomes more probable when we remember how closely allied pemphigus is to some drug eruptions, to toxic exanthemata, to urticaria and to Erythema multiforme. In all there is œdema of the papillary body, starting almost acutely, whereas the exudation of leucocytes is comparatively little marked. Moreover, the course of development of the bullæ is clinically similar in all these cases

If the resemblance of these diseases to one another is clinically well marked, it is perhaps allowable to assume that there is some similarity in their ætiology and origin. In the case of drug and toxic eruptions it seems certain that some poisonous chemical or bacterial substance is the direct cause which induces them, while in urticaria and Erythema multiforme we have good reasons for assuming a like origin. Bacterial toxins and auto-intoxication undoubtedly play a considerable *rôle* in the causation of the diseases just indicated, and if we admit their clinical resemblance to pemphigus, it seems reasonable to presume similar ætiological factors as playing a part in the evolution of the latter. The exact nature of the toxin concerned it is difficult to guess. Whatever it is, there is a possibility that it is manufactured in excess in the alimentary canal, or insufficiently destroyed by the liver, or imperfectly excreted by the kidneys and skin. That a specific poison may act on a certain definite group of capillary vessels is shown by the action of snake poison, where the exudate from the vessels may begin locally in a few minutes, and within a few hours involve the whole body. If we assume that pemphigus, both acute and chronic, is in the first place due to the metabolic products of bacteria, we can combine with this the neuropathic theory by supposing that these products induce a functional or organic change in the peripheral or central nervous systems, which again react on the skin by disturbed innervation of the area on which the bullæ arise. This theory has been supported by Eppinger, Tommasoli and Sormani, who all consider that auto-intoxication plays a primary part in the causation of the disease, and the varying forms of the disease can then be explained by admitting that the toxic body is not the same in every case. The demonstration and isolation of this toxin is without doubt a very difficult matter, and the finding of bacteria, whether streptococci, diplococci or diphtheria bacilli in the lesions, or even in the blood of the patient, cannot be said to prove the theory at all conclusively. Up to the present it has not been possible by injection of any

micro-organisms isolated from cases of pemphigus to induce true pemphigus in a healthy animal, and from it again isolate pure cultures of the same organism. But the theory has much in its favour, and is preferable to some others, such as that of Leredde, who, indeed, presumes an auto-intoxication, but holds that the first action is on the blood-forming organs, such as the spleen and marrow, and that anomalous blood changes so induced, like eosinophilia, react upon the skin in such a way as to produce the lesions of pemphigus.

Mention has already been made of a possible analogy between pemphigus and factitious urticaria, and in this connection it is interesting to refer to the very ingenious work of Gilchrist on factitious urticaria. He induced a wheal in urticaria patients, excised portions of it at various intervals afterwards without any local or other anæsthetic, and examined the tissue histologically by the celloidin method. In even the short space of three minutes after induction of the wheal his sections showed plainly a great exudation of leucocytes, especially polymorphonuclears, and marked fragmentation of the nuclei. These results he ascribes to the action of a toxin, although as yet he has not been able to isolate the toxin. Whether this conclusion is justified or not, the sequence of events is undoubtedly very rapid and of great interest as giving a possible clue to the causation of other diseases, such as pemphigus.

Whether true pemphigus is primarily a microbic disease or not, micro-organisms have been found in the bullæ by different observers. Demme's diplococcus has already been mentioned, staphylococci have been found in many cases, and streptococci have been found by Babes, myself and others. In my case recorded above streptococci were found in film preparations and pure culture, and the patient recovered rapidly with treatment by a streptococcic vaccine prepared from cultures of the bullæ. A case of Pemphigus vegetans is reported by MacCormac in the September number of this journal from which a pure culture of a streptococcus was obtained, and I have under my care at the present moment a boy, aged 6 years, who has had recurrent crops of typical pemphigus bullæ since last Christmas, the bullæ on one occasion also yielding a pure streptococcal growth. But pemphigus bullæ are sometimes sterile, and further observations and inoculation experiments are necessary in order to establish conclusively a bacterial origin of the disease.

CURRENT LITERATURE.

BLASTOMYCES AND ITS RELATION TO CUTANEOUS DISEASE.

J. Marzinowski and S. L. Bogrow. (*Archiv f. Derm. u. Syph.*, June, 1907, p. 215.)

In this paper the writers are chiefly concerned with the so-called flask-bacillus of Unna, the history of which they describe in detail. According to them the first notice of this organism was by Rivolta in 1873, who described it under the heading of "*Cryptococcus psoriasis.*" It was described again in the following year by Malassez, who called it a "spore," and believed it to be the cause of Pityriasis simplex and Alopecia areata. In 1884 Bizzozero wrote about it and concluded that it was a yeast, and that there were two varieties of it which he named the *Saccharomyces sphæricus* and *S. ovalis.* He considered that it possessed no pathogenic property. In 1891 it was brought into prominence by Unna, who re-named it the flask-bacillus and carefully described it, and more recently it has attracted considerable attention owing to the important position Sabouraud gave it by regarding it as the cause of pityriasis. At one time he believed it to be an involution stage of the *Staphylococcus pyogenes albus.* The conclusions which the writer of this paper, after examining the skin of forty-eight diseased and healthy individuals, came to with regard to the question, are as follows:

(1) Blastomycetes (of which the flask-bacillus is regarded as an example) frequently occur in both healthy and diseased skin.

(2) They are specially prevalent in situations where the sebaceous glands are large and active.

(3) They may become pathogenic.

(4) Blastomycetes, which usually lead a saprophytic existence in the skin, may have their resisting power so increased that they can withstand an inflammatory reaction.

(5) It is necessary that the resisting power of the blastomyces should be increased in order that it may become pathogenic.

(6) The blastomyces may also become pathogenic if the resistance of the tissues is lowered.

(7) The initial stage of blastomycosis of the skin is an acneiform lesion with inflammation of the follicle and perifollicular tissue.

J. M. H. M.

ON KAPOSI'S PIGMENT SARCOMA.

Walther Pick. (*Archiv f. Derm. u. Syph.*, October, 1907, lxxxvii, p. 267.)

The true nature of Sarcoma idiopathicum is still a subject for discussion and various problems present themselves in connection with it. It has been asked whether it is a local tumour affection which arises *de novo*, or is the result of metastases from some underlying diseased focus, or is superimposed on some pre-existing local morbid condition. In this contribution Pick has described two cases which bear out the last suggestion. They were both cases in which there was a pre-existent Elephantiasis lymphangiectatica, and the lesions of Sarcoma idiopathicum multiplex seemed to result from the transformation of lymph cysts into solid nodules.

Case 1 was that of a woman, aged 52 years, whose legs were affected. The disease began with swelling of the legs, which had persisted since her last pregnancy. On the surface of the affected skin a number of small translucent nodules made their appearance, from which on being punctured a drop of serum could be expressed. These gradually gave place to solid warty growths. When first seen at the clinique in Vienna the legs presented the appearance which is illustrated in the coloured plate accompanying the article. They were swollen and œdematous from the middle of the calf downwards, the left leg being especially large. The affected skin was discoloured and livid, and presented a number of conglomerate patches or plaques of reddish-brown lesions, some of which were translucent, while others were solid, and had a tendency to become confluent and form warty masses covered with a yellowish crust. The cystic lesions varied in size from a pin's head to a split-pea. The solid lesions and the general appearance of the affected skin were typical of Sarcoma idiopathicum.

Case 2 was that of a man, aged 58 years, in whom the affection followed an injury to the right shin, as a result of which a lymphangitis with much œdema of the leg supervened. This was associated with swelling of the foot. Numerous small lymphodermic cysts developed which became hæmorrhagic. These in turn become solid growths as in the other case.

A histological examination was made which showed lymph cysts with a thin layer of epidermis over them, and marked lymphangiectases deeper down in the corium. Associated with the lymphatic changes there were numerous foci of plasma cells, many of which exhibited either karyokinetic figures or divided nuclei. Other sections showed dilated or new-formed blood-capillaries, and the transformation of the lymph spaces to solid tumour masses by a rapid increase of plasma cells, which gradually developed into cells like endothelial cells, and finally were replaced by spindle cells. The details of the histological picture in the advanced lesions were similar to those which have been described by various observers as characteristic of Sarcoma idiopathicum. Cases showing the relationship of this disease with changes in the lymphatic vessels have also been recorded by Philippson and Bernhandt.

J. M. H. M.

CONTRIBUTION TO THE KNOWLEDGE OF SARCOID SKIN-TUMOURS. Paul Rusch. (*Archiv f. Derm. u. Syph.*, October, 1907, lxxxvii. p. 163.)

The case on which this contribution is based occurred at the Dermatological Clinic at Innsbruck, and was that of a man, aged 39 years, a labourer, who came under observation in July, 1905, suffering from vitiligo, and two symmetrical, granulomatous tumours situated in the genito-crural folds. The tumours were oval in shape, from 12 to 15 cm. long and 4 to 5 cm. broad, with a well-defined margin and raised as high as 2 cm. The tumour mass was divided longitudinally by the genito-crural fold, so that the two halves were in apposition when the legs were together. The tumours were red in colour, hard in consistence, and the surface was moist, and from it a sero-purulent discharge could be expressed by squeezing the tumour. Here and there is was covered with crusts. Patches of vitiligo surrounded the tumours, and beyond them were zones of pigmentation. The vitiligo was also well marked on the lower part of the abdomen and on the

interscapular region. The groin glands were enlarged. The patient seemed to be healthy otherwise. The tumours had followed on an intertrigo of the genito-crural regions which began in 1902, was associated with great irritation, which led to scratching, laceration and inoculation with pus-organisms. Gradually the intertriginous patches became raised and assumed the characteristics described. Various local applications were tried but with no beneficial effect, and as a last resort the one lesion was scraped away and the other excised. A microscopical examination showed that the stratum corneum was thin and that the prickle-cell layer was thickened. The chief alterations occurred in the corium. The papillæ were swollen and œdematous, the blood-capillaries being widened and the endothelium proliferated. Around the capillaries in the papillary and reticular layers there was a profuse cellular infiltration consisting of lymphocytes, some polynuclear leucocytes, mast cells, plasma cells and occasional giant cells. The elastic tissue and collagen had disappeared where the infiltration was densest.

The differential diagnosis of the case is discussed at great length by the writer.

There were no evidences of syphilis. Tuberculin was injected and a guinea-pig inoculated with negative results. The writer considered that the histology neither corresponded to an inflammatory granulation tumour or a new growth, and regarded it as a "sarcoid tumour of the skin."

J. M H. M.

[The description of the clinical appearances, the photograph illustrating the case, and the histological characteristics seemed to point to the lesions being granulomata due to pus organisms.—J. M. H. M.]

ON OXYURIASIS CUTANEA. C. Vignolo-Lutati. (*Archiv f. Derm. u. Syph.*, September, 1907, p. 81.)

Under the heading "Oxyuriasis Cutanea" the writer has described a case of a severe dermatitis resulting from the presence and colonisation of the *Oxyuris vermicularis* in the skin of the peri-anal region. The patient was a man, aged 24 years, a native of Turin, who came under the observation of the writer suffering from an acute dermatitis of the peri-anal and genito-crural regions. The skin in these parts was much inflamed, and more or less covered by a sero-purulent discharge with an offensive odour. Dotted over the moist inflamed skin was a number of small vesico-pustules. In the discharge, especially about the scrotal sulcus, the worms were detected in large numbers. The patient had suffered for some time before from thread-worms. These had produced a proctitis, the discharge from which caused a sodden irritable condition of the skin of the peri-anal region. Through scratching secondary inoculation of pus-organisms occurred, and a septic dermatitis was produced which formed a suitable habitat for the oxyuris. The presence of the worm greatly intensified the dermatitis, and the condition described by the writer resulted. Similar cases have been recorded by Szerlecky in 1874, Michelson in 1877, and Majocchi in 1893.

J. M. H. M.

REVIEWS.

Lehrbuch der Haut-und Geschlechts-Krankheiten. Second Part: Venereal Diseases.*

This is the sixth edition of Professor Finger's well-known and admirable book on venereal diseases, and takes the place of the fifth edition which was published in 1901. We have recently reviewed the companion volume on skin-diseases by the same author. The present volume would have appeared earlier, had it not been for the discovery in 1904 of the *Spirochæta pallida* and the possibility of transmitting syphilis to monkeys. These discoveries needed confirmation and amplification, and gave rise to a very considerable amount of literature dealing with this special subject. In consequence, the chapters dealing with the ætiology, bacteriology and experimental pathology of syphilis had to be re-written and amplified.

In the first chapter the differences are pointed out between the *Spirochæta pallida*, *Spirochæta refringens*, the spirochæte of Balanitis erosiva and gangrænosa, of Stomatitis ulcerosa, the extremely delicate *Spirochæta dentium*, and the spirochæte found in the intestine in ulcerating carcinomata and elsewhere, and it is pointed out that when stained with Giemsa's stain only the *Spirochæta pallida* shows a reddish tint. This latter organism has been demonstrated by many observers in many countries in almost all the tissues and lesions of acquired and hereditary syphilis. It has also been found less abundantly in the blood, in Syphilis maligna, in Aortitis syphilitica, in Arteritis cerebralis syphilitica, and in the ulcers and infiltrates of so-called tertiary syphilis. And in congenital syphilitic organs it has been found sometimes abundantly, sometimes scantily, but the investigations have in almost every case proved positive. Landsteiner and Professor Finger's assistant, Mucha, were the first to demonstrate how easily the organism could be found with the ultra-microscope. They used a Reichert condenser, a 20 ampère arc-lamp, and a combination of lenses consisting of a dry Reichert 5 and compensation ocular 18. They showed that the spirals of the spirochæte were extraordinarily regular, and did not alter on movement, but that progress was made by rotation on the long axis after the manner of an endless screw, and by bending movements of the whole organism.

The question of the inoculation of syphilitic material in monkeys is dealt with in detail, and it is pointed out that in secondary syphilis the blood contains the virus of syphilis, and that positive inoculation experiments have been carried out. Similar results have also been obtained in monkeys, but the results have not been constant, and we must conclude that the virus is not at all times present in the blood of secondary syphilitics.

Excellent to an unusual degree as is the portion of the book dealing with the pathology of syphilis, the clinical and therapeutical parts of the volume are also worthy of the most careful study. Under the clinical manifestations of the late

**Lehrbuch der Haut-und Geschlechts-Krankheiten. Second Part: Venereal Diseases.* By Dr. Ernest Finger, Professor of Dermatology and Syphilis; Head of the University Clinic of Syphilidology and Dermatology in Vienna. Leipzig and Vienna: Franz Deuticke, 1908. Pp. 382 and 8 plates. 10 marks.

forms of syphilis are included descriptions of diseases of the digestive organs, respiratory organs, circulating system, brain, spinal cord and peripheral nerves, and there is a chapter on syphilitic diseases of the eye contributed by Professor Dimmer.

Under the treatment of syphilis are described sublimate baths, and these are recommended in those cases of ulcerating syphilis where mercury must be given but on account of the lesions inunction is impracticable. The following should be added to the bath and thoroughly stirred in :—Merc. sublim. corros. 10·0–30·0, aq. dist. 400·0. The bath must be kept at 26–28° R. for ½ to 1 hour, during which time the patient remains immersed. The bath is given every day, and after it the patient remains in bed for an hour. Similar local baths can be given. Sublimate baths can also be given when the skin is intact in conjunction with an electrical bath.

For intra-muscular injections the following formulæ are given :—Calomel, sod. chlorati āā 5·0. Aq. dist. 50·0, mucil. gummi arab. 2·5 ; and calomel levig. 5·0, paraff. liquid 50·0, but attention is drawn to the painful indurations which injections of calomel produce.

There are also chapters dealing with gonorrhœa, and its complications in man and woman, balanitis, vulvitis, phimosis, adenitis, etc., and some illustrations in colours, which perhaps leave something to be desired from an artistic point of view. The book is, however, excellent as a whole, clear and practical, and to be recommended without hesitation to those interested in venereal diseases.

J. L. B.

An Introduction to Dermatology.*

The fact that the *Introduction to Dermatology* by Dr. Norman Walker has so soon reached a fourth edition is in itself a sufficient evidence of the success which this text-book has achieved and its popularity among students and practitioners. In this edition the general character and sound teaching of the book, which are now so familiar, its simplicity of arrangement, and its terse descriptions are all maintained, while new matter has been added where necessary to bring it up to date. A new feature which enhances the value of the book appears in this edition, namely a series of three-colour reproductions of casts of various skin-diseases, made from the author's cases by Dr. Cranston Low. These have replaced the coloured plates of the earlier editions. Some of these reproductions, notably those illustrating Dermatitis herpetiformis, rosacea, psoriasis, acne, tertiary syphilis, and Adenoma sebaceum are excellent, and it may be said of all of them that they represent the diseases more faithfully than an ordinary photograph. When one realises that even in the best of them the delicacy of tint of the cast must have been to some extent lost in the reproduction, one can appreciate the excellence of the originals. Among the smaller text-books in dermatology the *Introduction to Dermatology* is in the first rank, and the author and publishers are to be congratulated in producing an edition which is more attractive than any of its predecessors.

J. M. H. M.

* *An Introduction to Dermatology.* By Norman Walker, M.D., F.R.C.P. Edinburgh : William Green & Son, 1908. Price 9*s.* 6*d.*

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